

[TYPE THE COMPANY NAME]

“Rich countries are rich because they are highly urbanized.”

Hugo Chesshire
4400800
3/21/2012

The statement proposes a causal relationship: urbanization is a cause (or *the* cause) of wealth. It does not imply mere correlation alone – “rich countries are also highly urbanized” – but that urbanization leads to or creates wealth in some way. To test this, however, the first step would be to establish that there is a correlation between a country’s wealth and its level of urbanization. The correlation alone does not prove causation, but without a correlation, a causal link could not exist. Defining and examining urbanization is relatively easy; while there are some grey areas around the point at which a rural village might grow sufficiently to become classified as a town or an urban area, the comparison of urban with rural areas is quite well-established in the field. “Wealth” is a little more problematic. It is often understood in strictly monetary terms, but we can also understand a country’s wealth in terms of things such as mineral wealth or oil reserves, or perhaps even in scientific or cultural output. However, for the purposes of this study, the standard definition of wealth in economic productivity as expressed in monetary terms will suffice. This is not only internationally agreed-upon and data-rich, but is also an expression of wealth much more likely to be tied to urbanization than other definitions, and more likely to produce useful data. The question to be answered, then, becomes whether there is a positive correlation between per-capita gross domestic product (GDP) (as we ought to control for the effect of population size on overall national wealth) and the urban population as a proportion of national population. If a correlation exists, then a possible causal mechanism can be investigated.

It is important to understand whether urbanization is a cause of wealth, since many countries might actively pursue urbanization if they believed it caused national wealth. A major factor in the collapse of the Soviet Union was excessive urbanization and a national de-emphasis on agricultural productivity; the centralized bureaucracy became obsessed with urbanization and industrial output, leading to its neglect of the rural Soviet Union and agricultural output which

became calamitous for the state (Johnson & Brooks 1983; 12). The Chinese government, following the death of Mao, followed a different course and placed an emphasis on agriculture, which probably enabled them to survive much the same sort of crisis that beset the Soviet Union from the 1970s onwards (Jha 2002, 25-27). Pursuit of urbanization in the belief that it causes wealth may have actually toppled a superpower, and so the question of urbanization as a cause of wealth has far-reaching consequences, particularly for emerging urbanizing and industrializing economies such as India or Brazil, or, to a lesser extent, China or Russia. It is readily observable that all of the world's wealthiest countries are highly urbanized, with North America, Australia, New Zealand and Europe all having urbanization rates closely approaching or exceeding 75% (United Nations 2010, 9).

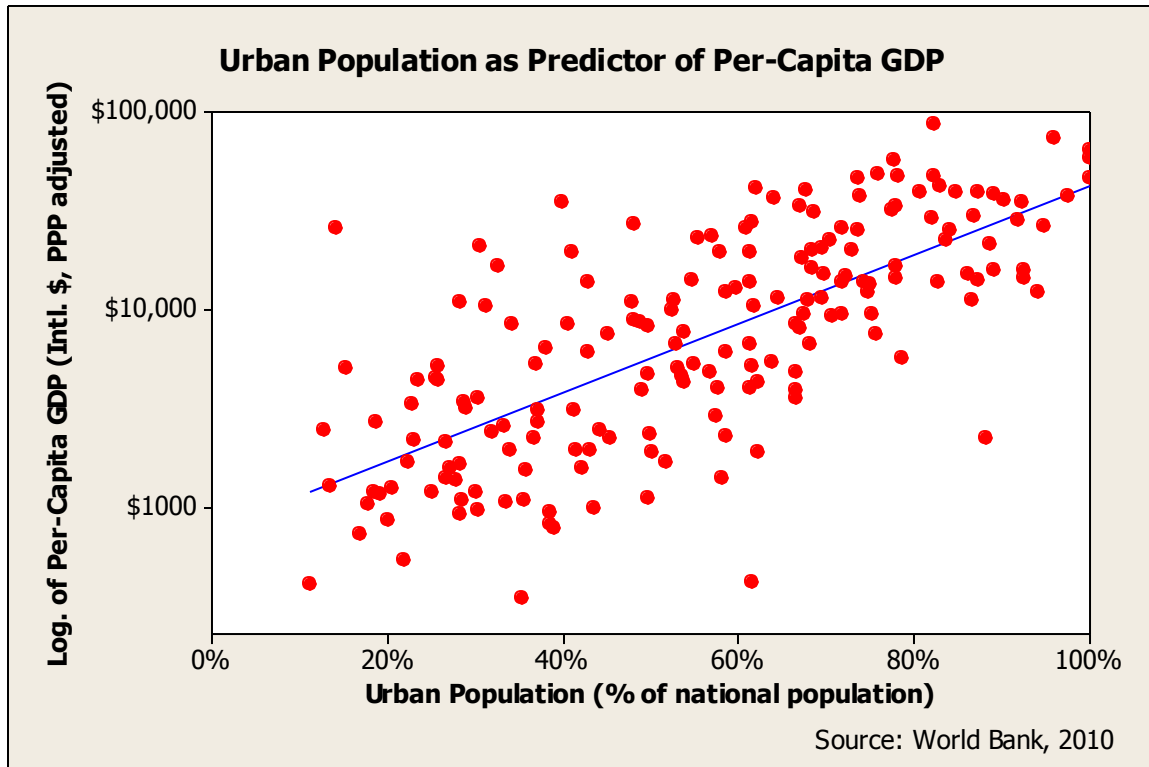
A logical argument can be constructed as to why urbanization would lead to greater GDP. Cities have historically been the productive centres of their countries (United Nations 2010, 14). Urban population density is higher, which means a larger workforce in a smaller area; cities usually have better educational facilities resulting in a better-educated urban workforce, and urban areas usually have more extensive infrastructure (power, water and sewerage, roads, rail etc.), making cities more attractive to industry and commerce. This translates to internal economies of scale, urbanization, and of localization, and positive transportation costs, making urbanization advantageous for both production and consumption (Graves & Sexton 1979, 8; Mills & Becker 1986, 12). Urban development (as a manifestation of concentrated food surpluses) also lends itself to greater specialization and division of labour, which can therefore support more diverse and profitable economic activity (Evans 1972, 7; Stigler 1968, 20).

However, it is also possible that a correlation may be due to the reverse of the causal relationship supposed, i.e. that wealth is a cause of urbanization. Moomaw and Shatter (1996,

13) find that urban population increases with GDP per capita, but also with industrialization, export orientation, and possibly with foreign assistance. They find that the growth of commerce and industry places a premium on proximity for labour, communication and transportation, and thus economic development may be the cause of urbanization, rather than vice versa (ibid., 17). It is also possible that wealth and urbanization are both dependent upon some third factor which has the true causal effect. For example, Moomaw and Shatter (ibid., 18) note that literacy correlates to urbanization and economic development and that literacy may have an independent effect on urbanization; foreign aid may also be a causal factor for both as it tends to increase economic development through foreign-funded investments in industry and infrastructure, but because it tends to be better distributed through urban centres, it also creates an increase in urbanization.

Figure 1 shows the correlation of per-capita GDP, adjusted for purchasing power parity (PPP), and urbanization. There is a moderate positive correlation, with a coefficient of 0.64. The existence of urbanized yet poor outliers may confirm the suspicions of Graves and Sexton (1979, 12), who believe developing countries may be pushing urbanization policies in the expectation of greater national wealth to follow; accelerating urbanization beyond its “natural” rate creates a large body of urban poor, drives people into cities before employment prospects have been created, and increases urban population without necessarily creating corresponding increases in wealth. The outliers towards the other direction – rural yet wealthy nations – overwhelmingly comprise Caribbean tax havens, presumably skewed by an influx of foreign capital. However, the data are consistent with what we would expect from the general findings of the literature (Graves & Sexton 1979, 8; Mills & Becker 1986, 12; Moomaw & Shatter 1996, 13).

Figure 1



Although urbanization and wealth are obviously correlated, this merely indicates the value of further study, not necessarily a causal link between urbanization and GDP. The dangers of assuming otherwise are discussed above. In order to demonstrate clear causality, it would first be necessary to control for other possibly causal factors, such as export orientation, education, natural resources, disease, political stability, foreign relations, and a host of other factors known to be causes of national wealth or poverty. If these can all be controlled for, and urbanization still has a correlation with per-capita GDP, then we may be able to say that urbanization is a causal factor for wealth, although it may not be the only factor. Further, we should also investigate the possibility that increased wealth may be a cause of urbanization. However, the hypothesis is confirmed; urbanization is positively correlated with per-capita GDP, and we can unequivocally state that, *ceteris paribus*, a more urbanized country will be richer.

Moomaw and Shatter (*ibid.*, 18) identify literacy as a possible confounding variable, finding that literacy positively correlates with both urbanization and with per-capita GDP. Plausible explanations exist for why literacy might be a causal factor for wealth. For example, extensive worker literacy is not required for an agrarian economy (as evidenced by the majority of human history, during which our species was both largely agrarian and largely illiterate), and perhaps not even for an early industrial economy where work would often be repetitive and still use the muscles of workers far more than their brains. However, for high-technology manufacturing and service-sector based economies, a literate workforce is a necessity. It might therefore be assumed that higher literacy leads to more technologically advanced manufacturing economies and a larger service sector, as generally defines the economies of the world's wealthier countries. If this is true, there ought to be a positive correlation between adult literacy and GDP per capita. We would expect minors to be illiterate, or semi-literate, as their education is not complete, but a country with a functional public education system should produce literate adults at the very least.

Michael Katz (1976, 383-385) argues that the haphazard schools of the 18th and 19th centuries were not precursors of the modern education system that developed in the 20th century, which was something fundamentally different in nature. The only method of approaching universal literacy that has been historically successful has been the universal public-school model. Public education and the near-universal literacy rates that accompany it *followed* the vast accumulation of wealth in the industrial revolution. Katz argues that public education (and thus, a high adult literacy rate) is a product of advanced capitalism, not vice versa. As the capitalist system progresses and becomes more embedded, social institutions come to reflect capital's

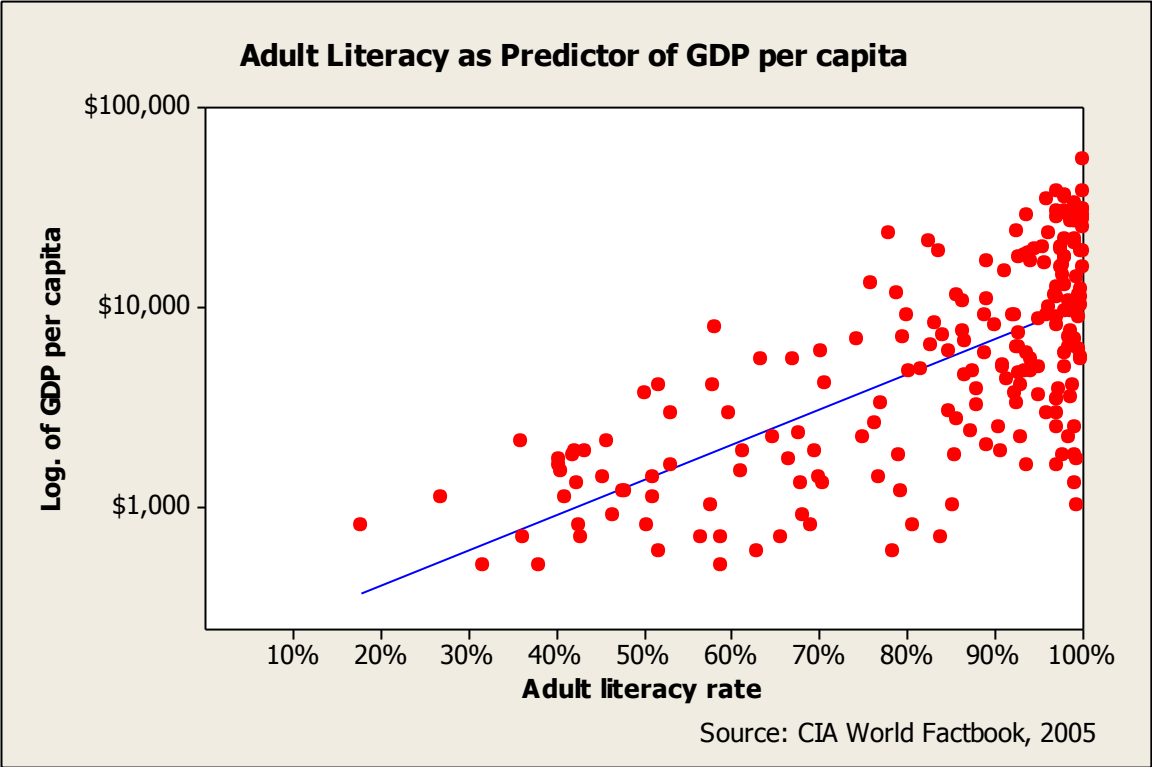
“drive toward the order, rationality, discipline and specialization inherent in capitalism,” and capitalist societies approach both business and social problems in the same way (ibid., 392).

Public education was seen as the answer to a host of social ills, including urban crime and poverty, increasing cultural heterogeneity, the need to train and discipline an urban workforce, the crisis of nineteenth-century urban youth, and a middle class concern for their children (ibid.). If Katz is correct, then we could still see a correlation between literacy and wealth, but the causal link would be reversed: the political-economic regime which produces greater wealth also leads societies to approach certain social problems (crime, poverty, etc.) in a manner that produces increased literacy as an outcome and as a deliberate and intended result of policy. Conversely, we might also see little correlation in highly literate countries, since if high literacy “naturally” develops out of advanced, capitalist economies, then countries that pursue high literacy as a policy goal aimed at economic development without having first developed an advanced capitalist economy are essentially trying to replicate the effect in order to achieve the cause. Obviously, this stands causality on its head. A weak correlation, or none at all, would be consistent with Katz’s hypothesis – that a well-developed economy leads to high literacy rates, but not necessarily vice versa – but a strong positive correlation would not necessarily disprove it, as causation cannot logically be inferred from correlation alone. A negative correlation would not be consistent with Katz’s hypothesis.

We could also expect to see a positive correlation between literacy and urbanization. It is easier to educate an urban population, as population density is greater and school catchment areas are smaller. A larger pool of students also means that classes can be more specialized, as seen in the stratification of urban schools along the lines of age and ability when contrasted with the stereotypical rural school, where the village children are all educated in the same classroom

regardless of either. If urban schools are more effective, we ought to see higher levels of literacy in urban areas. Such a difference is readily observable, for instance, in sub-Saharan Africa, where the reading ability of rural students consistently lags behind the urban dwellers in their cohort (Zhang 2006, 583).

In the list of social concerns that Katz (ibid.) identifies as having led the policymakers of capitalist societies to create a public education system, it is notable that three out of five relate to urban areas. If education is seen as a response to the social ills of the city, then one would expect education *qua* policy response to be overly concentrated in cities. A positive correlation between literacy and urbanization would therefore be expected. When examining per-capita GDP, then, it is possible that either literacy or urbanization could be a causal factor.



The data show a moderate positive correlation with a coefficient of 0.51. The distribution has a high median score of 92.5% and is densely clustered, with an inter-quartile range of only 27%. The correlation is much weaker for countries exceeding the median, with a coefficient of only 0.28. Moreover, if we shrink our sample to include only countries with literacy rates of 95% or more, that coefficient shrinks again to 0.21, and for countries with literacy rates at or exceeding 98%, the coefficient is only 0.11 – for all intents and purposes, no correlation.

The data shows that literacy is probably not a cause of wealth, or at least is of such little weight as a causal factor that its effect is easily masked by other factors. If this were not true, then we should expect that highly literate countries ought to be generally wealthy, rather than the wide range of GDP that they actually display with almost no correlation to literacy. Countries whose literacy rate is at or above 98% have GDPs in an inter-quartile range of \$21,225 and a standard deviation of \$12,251, in a population whose entire range runs from \$1,000 to \$55,100. It is possible that literacy can assist with national wealth to a point, but begins to yield diminishing returns afterward. However, it is more likely that other factors affect national wealth to a much greater degree. Cuba, for example, has had great success with its educational system, attaining a 97% adult literacy rate, but struggles with only \$2,900 in GDP per capita (CIA World Factbook, 2005). In analyzing Cuba's relative poverty, factors such as a dearth of natural resources (exacerbated by the collapse of the Soviet Union and the consequent end of resource and cash transfers from the Soviet state), a centrally-planned economy that stymies growth, and the U.S. trade embargo, are almost certainly more important than literacy.

Literacy does not seem to be a causal factor for national GDP per capita. The literature is divided on the question of whether literacy is a cause or a result of national wealth, and the correlation between literacy and wealth is not as strong as that between urbanization and wealth.

Furthermore, the near-disappearance of that correlation at very high national literacy rates suggests that literacy cannot produce national wealth in the absence of other causal factors, if at all. If not, we should find that highly literate countries were mostly or overwhelmingly wealthy, but this is not the case. Wealthy countries are all highly literate, but highly literate countries are not all wealthy, which lends credence to Katz's argument that literacy "naturally" comes about as a result of wealth, and that countries pursuing literacy as a means to wealth are likely to be frustrated. There might well be good reasons for pursuing universal literacy as a policy goal, but the data suggest that national wealth is not one of them.

Bibliography

- CIA World Factbook. Data obtained and compiled by Gene Shackman, Global Social Change Research Project (2005). Retrieved from <http://gsociology.icaap.org/> on March 13, 2012.
- Evans, A.W. "The pure theory of city size in an industrial economy," *Urban Studies* 9 (1972), 49-78.
- Graves, P.E. & R.L. Sexton. "Overurbanization and its relation to economic growth for less developed countries," *Economic Forum* 8, 95-100; in P. K. Ghosh, Ed., *Urban Development in the Third World* (Westport, CT: Greenwood Press, 1979).
- Jha, P.S. *The Perilous Road to the Market* (India: Replika Press Pvt Ltd, 2002).
- Johnson, D.G. & K. McConnell Brooks. *Prospects for Soviet Agriculture in the 1980s* (Bloomington IN: Indiana University Press, 1983).
- Katz, Michael B. "The Origins of Public Education: A Reassessment," *History of Education Quarterly* 16(4) (1976), 381-407.
- Mills, E. S. & C. Becker. *Studies in Indian Urban Development*, (Oxford: Oxford University Press, 1986).
- Moomaw, R.L. & A.M. Shatter. "Urbanization and Economic Development: A Bias toward Large Cities?" *Journal of Urban Economics* 40 (1996), 13-37.
- Stigler, G. J. "The division of labor is limited by the extent of the market," *Journal of Political Economy* (1951); in G. J. Stigler, Ed., *The Organization of Industry* (Irwin, Homewood, IL: 1968).
- United Nations. *World Urbanization Prospects: The 2009 Revision, Highlights* (New York: Department of Economic and Social Affairs of the United Nations Secretariat, 2010).
- Zhang, Yanhong. "Urban-Rural Literacy Gaps in Sub-Saharan Africa: The Roles of Socioeconomic Status and School Quality." *Comparative Education Review* 50(4) (2006), 581-602.